

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: SILVER LAKE	Lake Area (ha):	13.64
Town: HOLLIS	Maximum depth (m):	7.3
County: Hillsborough	Mean depth (m):	2.8
River Basin: Merrimack	Volume (m ³):	387000
Latitude: 42°45'25" N	Relative depth:	1.8
Longitude: 71°35'54" W	Shore configuration:	1.37
Elevation (ft): 274	Areal water load (m/yr):	9.14
Shore length (m): 1800	Flushing rate (yr ⁻¹):	3.20
Watershed area (ha): 248.6	P retention coeff.:	0.56
% watershed ponded: 0.0	Lake type:	natural w/dam

BIOLOGICAL:

2 February 1999

10 September 1998

DOM. PHYTOPLANKTON (% TOTAL)	#1	NO WINTER PLANKTON	COELOSPHAERIUM 95%
	#2	ANALYZED	
	#3		
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			3.27
DOM. ZOOPLANKTON (% TOTAL)	#1		NAUPLIUS LARVA 37%
	#2		CYCLOPOID COPEPOD 35%
	#3		
ROTIFERS/LITER			20
MICROCRUSTACEA/LITER			166
ZOOPLANKTON ABUNDANCE (#/L)			185
VASCULAR PLANT ABUNDANCE			Sparse
SECCHI DISK TRANSPARENCY (m)			3.4
BOTTOM DISSOLVED OXYGEN (mg/L)		13.6	6.2
BACTERIA (E. coli, #/100 ml)	#1		
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None
Hypolimnion volume (m³) : None
Anoxic volume (m³) : None

CHEMICAL:Lake: SILVER LAKE
Town: HOLLIS

	2 February 1999		10 September 1998		
DEPTH (m)	1.0	2.0	1.0		3.0
pH (units)	6.9	6.9	7.4		7.3
A.N.C. (Alkalinity)	15.4	17.0	12.9		12.8
NITRATE NITROGEN	0.10	0.08	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.40	0.40	0.40		0.50
TOTAL PHOSPHORUS	0.008	0.010	0.007		0.009
CONDUCTIVITY (μ mhos/cm)	182.2	190.1	177.5		177.1
APPARENT COLOR (cpu)	11	12			
MAGNESIUM			1.37		
CALCIUM			6.8		
SODIUM			24.5		
POTASSIUM			1.28		
CHLORIDE	43	46	43		41
SULFATE	8	8	6		6
TN : TP	63	48	57		56
CALCITE SATURATION INDEX			2.0		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1998

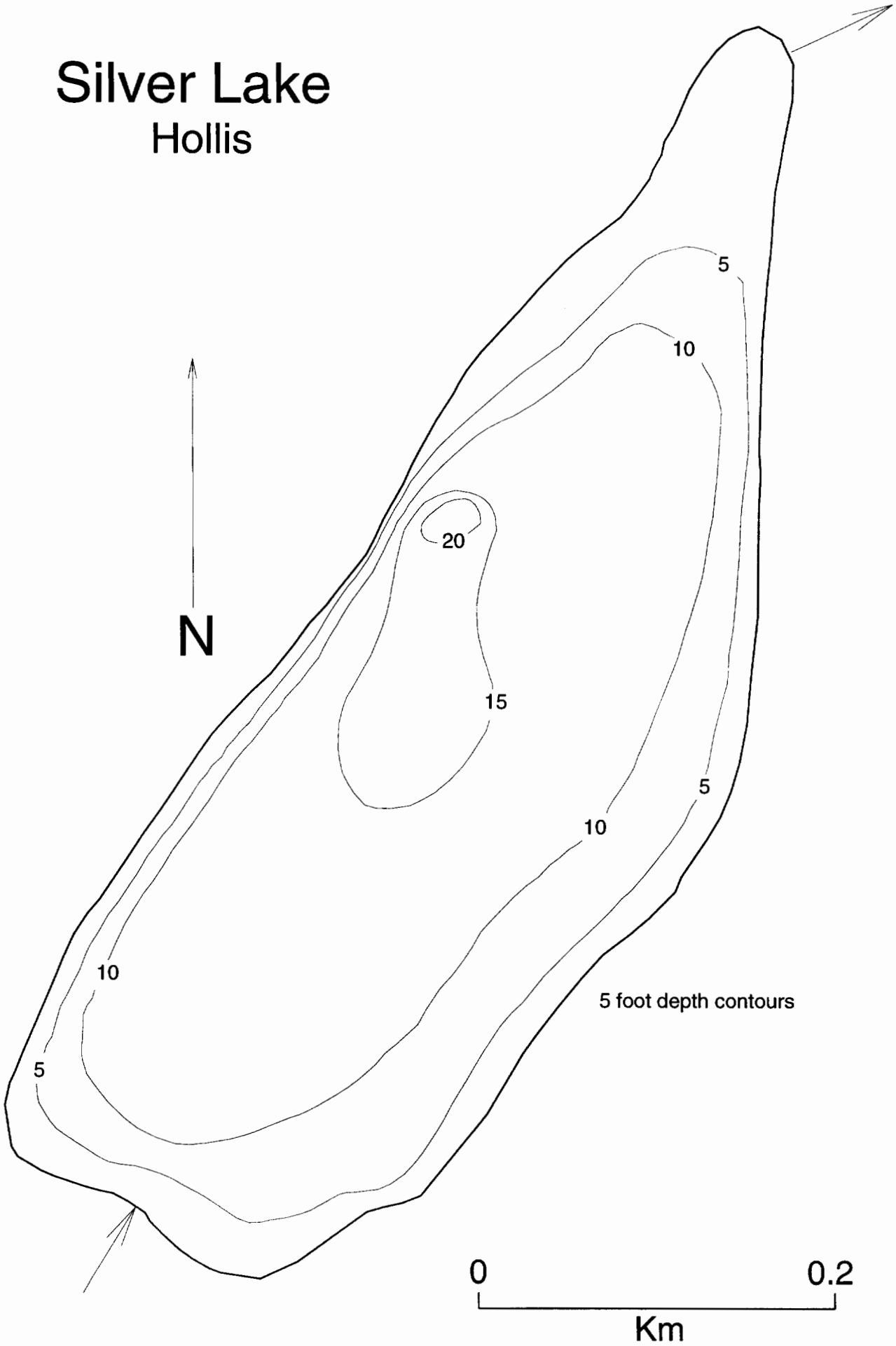
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	0	0	2	Oligo.

COMMENTS:

1. aka Long Pond.
2. Silver Lake was previously surveyed and classified in 1978 and was rated oligotrophic in both years. Despite the oligotrophic rating, Silver Lake has had episodes in the past of clumps of blue-green algae visible in the water column. A bluegreen alga (*Coelosphaerium*) was dominant in 1998 but did not form clumps or scums – and the overall abundance was low.
3. Conductivity, sodium and chloride levels suggest some road salt runoff into the pond.
4. Heavily developed along the eastern shoreline and Silver Lake State Park is located adjacent to the outlet (northern end).

Silver Lake

Hollis



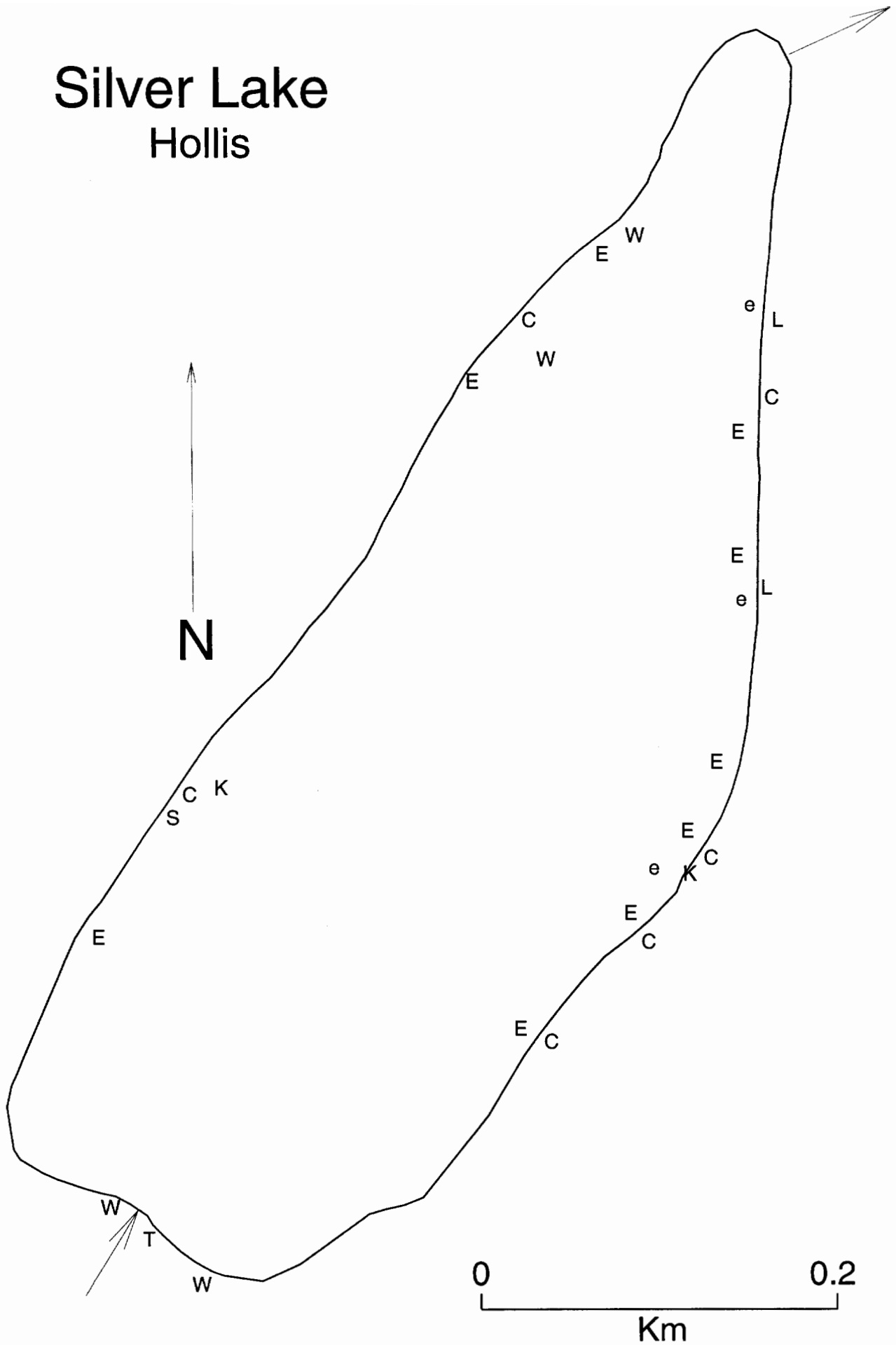
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COMMENTS :

*Dissolved oxygen values are in mg/L

Silver Lake

Hollis



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